Common Threads for Managers

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More Questions Than Answers

- Monitoring and Assessing a Bleaching Event
- Managing a Bleaching Event
- Recovery Efforts After a Bleaching Event
- Planning for Bleaching
- The Human Side
- The Politics of It All
- Accountability and Decisions

Monitoring and Assessment

- What data is needed to adequately assess a bleaching event? What standards should be applied?
- In an assessment after a bleaching event, what are the different variables we should be measuring or monitoring? How do we best assess the damage?
- Who is in the best position to perform long-term monitoring?
- Needs:
  - A rapid assessment team to immediately respond to an event
  - More remote sensing

Managing a Bleaching Event

- How predictable are bleaching events?
- Are there some bleaching events we shouldn't really worry about?
- Do closed areas recover better? If so, why?
- How else can we mitigate the affects of bleaching?
- If closing is not a possibility is there a "next best thing"?
- Should we manage any specific species (e.g. herbivores)?
- Opportunities:
  - Education and outreach to public
  - Engage and gain support of policy makers

Recovery Efforts After a Bleaching Event

- Is the best recovery in managed reefs? If so, why?
- Can we help promote natural recovery?
- Does removing other stressors help recovery? If so, are some stressors more important to eliminate than others?
- Are active restoration efforts worth doing?
- What support should we offer to displaced user groups? Should we set up a FEMA-type of response?

Planning for Bleaching

- What are the characteristics of resilient corals? Are some characteristics more important that others? How should they be weighed?
- What is a shorthand version of how to go about determining what should be set aside as a MPA?
- Other than MPA's, what other actions can be used to protect coral reefs after bleaching events?
- What is the overall role of coral bleaching in the decline of coral reefs at local, regional and global scales?

Planning for Bleaching (cont.)

- What are the long-term changes that are occurring in coral reef ecosystems due to SST? Does SST promote disease?
- Can we plan for 50 years out? Can we make some scientifically valid assumptions about where corals may migrate? If so, is there something we should be doing to protect those areas to aid recruitment?
- Needs:
  - Synthesis of data from various fields to draw conclusions
  - Determination of relative level of importance of different stressors

The Human Side

- How do coral bleaching events affect the people who are dependent on the resource for their livelihood?
- How much do coral reefs contribute to the local and regional economies?
- How does a bleaching event affect tourism to the area?
- Do human responses to the bleaching have unexpected affects on the recovery?
- Relating the affects to humans may be the best means to garner support for protection
- Needs:
  - More socio-economic studies and analysis

The Politics of It All

- Protection is nearly impossible without the support of elected officials so we must be aware of political concerns
- Constituents can be a powerful way of garnering support
- The higher the level of scientific confidence the greater the chance of making something happen
- Managers need to know the relative "worth" of various management actions in order to make policy decisions
  - risk vs. reward

Accountability and Decisions

- Managers are often on the front lines and can become the "face" of the resource and accountability comes with that
- Accountable for protecting and conserving the resources
- Accountable for accurately identifying the greatest threats to the health of the coral reef ecosystems
- With limited resources, managers must make tough choices between numerous options
- The work of scientists helps us make sound management decisions and managers can provide valuable information to scientists to hopefully answer these questions